UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,476	04/09/2001	Yikang Li	020431.0827	8678

7590 02/24/2005	EXAMINER
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DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/829,476	LI, YIKANG
		Examiner	Art Unit
		Jonathan G. Sterrett	3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09 April 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-43_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-43_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 02222005

DETAILED ACTION

Summary

1.   Claims 1-43 are pending in the application. The instant application deals with improving the ability of a marketing or economics practitioner to understand the impact of various marketing activities involved with influencing sales. Economic data has long been known to include components which are not observable by looking at raw data, which typically is an aggregate of several components. The techniques of extracting these components into stand alone variables, known as 'unobservable components', is old and well known in the field of marketing and economics, as evidenced by Maravall and Nerlove. The techniques of using regression to model correlations to help practitioners in econometrics, marketing science and economics predict future outcomes is very old and well known in the art, as evidenced by Leszczyc and Allenby. The claimed invention in the instant application essentially extracts the unobserved component known as a 'base sales volume' from aggregate sales data. The delta between base sales volume and total sales volume then becomes a quantity from which regressions are run to determine the correlation between various marketing promotional activities, including advertising, coupons and price reductions, and the delta and base sales volume. It is important to point out that the delta quantity mentioned above and the base sales volume are typically used together in a regression to improve the model's fit. The features of the claimed invention in the instant application are anticipated by Maravall and Leszczyc, as disclosed in the following office action.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 10 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the

enablement requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to enable one skilled in the art to which it pertains,

or with which it is most nearly connected, to make and/or use the invention. Claim 10

reads "eliminating all the locally optimal base sales volume series for which an R^2

statistical measure has a value greater than approximately 0.2". It is not clear from

reading the specification why eliminating variables whose R^2 is greater than 0.2 would

be performed, especially since greater values of R^2 in a regression analysis normally

are associated with improvements in fit and prediction accuracy of a marketing and

economic mathematical model.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claims 1-14 are rejected under 35 U.S.C. 101 because the invention is directed

to non-statuatory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts: and

(2) whether the invention produces a useful, concrete and tangible result.

5.   For a claimed invention to be statutory, the claimed invention must be within the

technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural

phenomena) that do not apply, involve, use, or advance the technological arts fail to

promote the "progress of science and the useful arts" (i.e., the physical sciences as

opposed to social sciences, for example) and therefore are found to be non-statutory

subject matter. For a process claim to pass muster, the recited process must somehow

apply, involve, use, or advance the technological arts. In the present case, none of the

claims are directed to anything in the technological arts as explained above. Looking at

the claims as a whole, nothing in the body of the claims recites any structure or

functionality to suggest that a computer performs the recited steps. Additionally, for a

claimed invention to be statutory, the claimed invention must produce a useful,

concrete, and tangible result. In the present case, the claimed invention provides a

method for applying a low pass filter to determine a base volume for use in business

analysis, which is a useful, concrete and tangible result. Although the recited process

produces a useful, concrete and tangible result, since the claimed invention, as a whole,

is not within the technological arts as explained above, Claims 1-14 are directed to be

directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> ((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1 and 2 rejected under 35 U.S.C. 102(b) as being anticipated by Maravall

as discussed in the following document:

Maravall, Augustin, "Unobserved Components in Economic Time Series" from

Handbook of Applied Econometrics, 1995, Blackwell Publishers Ltd, pp. 12-72.

Regarding Claim 1, Maravall discloses:

accessing an input data series for a series of time periods, the input data for

each time period comprising at least an actual sales volume for the time period (page

14 paragraph 2 line 10, quarterly series of US GNP data is accessed in analysis of

unobserved components in an economic time series), the actual sales volumes for the

series of time periods collectively comprising an actual sales volume series (Page 37

paragraph 4 line 6-7, 140 observations of GNP are an actual sales volume series);

within each iteration of an iterative process (page 41 paragraph 7 line 1-3, since

the Kalman filter approach uses a MMSE approach, it is iterative beginning with starting

conditions and running a set of recursions):

applying a low-pass filter to the actual sales volumes series to extract low

frequency components representing a base sales volume series for the iteration (page

16 paragraph 1 line 5-7, low frequency filters used to capture the series variation

associated with long term movements, including base sales volumes; page 16

paragraph 1 line 10-13, depending on the filter, components representing a base sales

volume series can be extracted from various frequency points in the economic data

series),

determining a locally optimal base sales volume series for the iteration

according to the input data series (page 41 paragraph 3 & 4, optimal estimation of

unobserved components, i.e. base sales volume, determined using minimum mean

squared error estimators);

selecting a globally optimal base sales volume series from among the locally

optimal base sales volume series determined using the iterative process (page 43

paragraph 5 line 4, equation gives globally optimal estimator for unobserved

components, i.e. base sales volume), the globally optimal base sales volume series

comprising an estimated base sales volume for each time period (page 37 paragraph 4

line 7-9, the model provides â very good fit and provides an estimated base sales

volume for each time period in the sample data); and

making one or more of the estimated base sales volumes available for use in

connection with at least one business analysis (page 13 paragraph 1 line 4-7,

unobserved components used in detection and analysis of business cycle at methodical

and applied levels).

Regarding Claim 2, Maravall discloses wherein the iterative process is performed

according to a smoothing parameter that is independent of time periods associated

with the input data series (page 16 paragraph 1 line 5-7, filters are low pass, screening

out higher frequency signals - it is inherent that low frequency filters are smoothing in

nature; page 16 paragraph 1 line 15 - page 17 paragraph 1 line 1, filters are

independent of the time series under analysis).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 103 that

form the basis for the rejections under this section made in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Maravall as described in the following document:

Regarding Claim 3, Maravall teaches that unobserved components in a time

series can be extracted through low frequency filters which provide the base of the

series data (unobserved components, i.e. the base volume), the filtered data comprises

other components acting in concert with the base volume to constitute the entire

inputted time series. Maravall teaches that the filter can be ad hoc, or essentially not

based on a mathematical relationship, but arrived at through an estimated guess.

Maravall does not teach nested loop iteration of the ad hoc filter to input various

values of the filter (e.g. smoothing parameter) i.e.:

a first parameter specifies the number of values the smoothing parameter can

have, an iterative loop being performed within the iterative process for each value of

the smoothing parameter; and

a second parameter specifies the number of iterations to be performed, inside

the iterative loop, for each value of the smoothing parameter.

The examiner takes official notice that nested loops are old and well known in the

art. They provide the means for providing a 2 dimensional matrix where the inside loop

increments (or decrements) between two values to specify one of the axes of said matrix and the outside loop increments (or decrements) between two values to specify the other axis of said matrix. Said matrix comprises values that can be used as inputs to other parts of the algorithm. This technique is an efficient way to generate values to be inputted into other parts of an algorithm.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Maravall, as discussed above, with providing a nested loop iteration of the smoothing parameter, because it would provide an efficient means to generate various values of the smoothing parameter.

Regarding Claim 4, Maravall wherein the smoothing parameter will have approximately ten thousand values according to the first parameter and, according to the second parameter, approximately three iterations will be performed inside the iterative loop for each value of the smoothing parameter (page 19 paragraph 2 line 1-5; Maravall teaches the use of ad hoc filters because they are simple and easy to use which is an important property when there is the need to estimate unobserved components in real world applications with thousands of series).

Regarding Claim 5, Maravall teaches using low pass filters to extract unobserved components in a time series for use in business analysis including that of marketing analysis (page 13 paragraph 1 line 4-6).

Maravall does not teach:

the input data series is stored in a multi-dimensional database comprising at least product, geography, and time dimensions; and

each input data value in the input data series is associated with a particular

intersection of members within the product, geography, and time dimensions.

The examiner takes official notice that it is old and well known in the art for

marketing data to be stored in a multidimensional database where the data comprises

at least product, geography and time. Marketing data associated with a company's

sales is usually tracked by what was sold, what sales region, and when. This data is

commonly used in marketing and sales analysis because it provides useful information

regarding how well marketing efforts, including those of promotions and couponing, are

being performed in various regions, are in increasing a company's profitability.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Maravall, as discussed above, with storing the input

data series comprising at least product, geography and time dimensions in a multi-

dimensional database, because it would provide a useful input into performing a

marketing and sales analysis on the data to improve a company's marketing efforts to

maximize profit.

10.   Claims 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Maravall in view of Leszczyc as described in the following document:

Leszczyc, Peter; Bass, Frank M, "Determining the Effects of Observed and

Unobserved Heterogenity on Consumer Brand Choice", 1998, John Wiley & Sons, pp.1-

115.

Regarding Claim 6, Maravall teaches using low pass filters to extract unobserved

components in a time series for use in business analysis including that of marketing

analysis (page 13 paragraph 1 line 4-6).

Maravall does not teach:

an incremental price reduction value associated with one or more promotional

tactics conducted in the time period, the incremental price reduction values for the

time periods collectively comprising an incremental price reduction series; and

values for one or more promotion variables that reflect whether associated

promotional tactics are conducted during the time period or reflect relative weights

accorded associated promotional tactics conducted during the time period, the values

for each promotion variable collectively comprising a promotion variable series for

that promotion variable, one or more of these promotional tactics selected from the

group consisting of:

a temporary price reduction for the item;

a promotional insert packaged with the item;

a promotional display for the item; and

an advertisement for the item.

Leszczyc teaches:

an incremental price reduction value associated with one or more promotional

tactics conducted in the time period, the incremental price reduction values for the

time periods collectively comprising an incremental price reduction series (page 104

Table IV, price special is a dummy variable indicating when a price reduction was taken

in the series); and

values for one or more promotion variables that reflect whether associated

promotional tactics are conducted during the time period or reflect relative weights

(page 104 Table IV, advertising and price specials are dummy variables indicating

whether or not advertising and price specials occurred in the series.) accorded

associated promotional tactics conducted during the time period, the values

for each promotion variable collectively comprising a promotion variable series for

that promotion variable, one or more of these promotional tactics selected from the

group consisting of:

a temporary price reduction for the item (page 104 Table IV, price special

variable;

a promotional insert packaged with the item (page 104 Table IV, advertising

variable or coupon variable);

a promotional display for the item; and

an advertisement for the item.

Leszczyc teaches the correct use of his model eliminates bias an allows for

correct marketing strategies and inferences to be developed (page 1 paragraph 1 line 1-

3).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Maravall, as discussed above, with the teachings of

Leszczyc, as discussed above, because it would have allowed a company to use base

sales volume as an unobserved component in a regression model to successful predict

the outcome of one or more marketing campaigns and allow a company to maximize

profit.

Regarding Claim 7, Maravall teaches extracting the base sales volume series

(i.e. unobserved component) in order to isolate the unobserved component from the

other economic components (page 12 paragraph 1 line 1-4) and that this approach

allows for further business analysis (page 13 paragraph 1 line 4-6). Maravall teaches

that time series data is composed of a combination of several components with the

unobserved components.

Maravall does not teach:

solving a regression equation that involves the actual sales volume series, the

base sales volume series resulting from application of the low-pass filter, an incremental

price reduction series, and one or more promotion variable series.

Leszczyc teaches accounting for unobserved components in his regression

model (page 96 paragraph 3 line 1-3) and that doing so improves the fit of the estimated

function (page 98 paragraph 4 line 8).

Leszczyc teaches:

solving a regression equation (page 102, equation 4) that involves the actual

sales volume series (page 103, line 7-8, 1474 consumers with 12,111 purchase

occasions), an incremental price reduction series (page 104 Table IV, "Price special"

variable indicating a price reduction), and one or more promotion variable series (page 104 Table IV, "Coupon" and "Advertising").

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Maravall, as discussed above, with the teachings of Leszczyc, because including the base volume series in the regression model would have improved the fit of the resulting equation and improved forecast accuracy.

Regarding Claim 8, Maravall does not teach:

solving the regression equation to determine values for estimated coefficients associated with the incremental price reduction series and the one or more promotion variable;

computing an error associated with use of the estimated coefficients;

to reduce bias, considering the error in selecting the locally optimal base sales volume series.

Leszczyc teaches

solving the regression equation to determine values for estimated coefficients associated with the incremental price reduction series and the one or more promotion variable series (page 108 Table VII-a, estimated coefficients);

computing an error associated with use of the estimated coefficients (page 103 paragraph 1 line 3, maximum likelihood estimation standard iteration minimizes errors associated with fitting coefficients);

to reduce bias, considering the error in selecting the locally optimal base sales

volume series (page 103 paragraph 1 line 3-5, MLE iteration is used, considering the

error until best fit is achieved).

Leszczyc teaches accounting for unobserved components in his regression

model (page 96 paragraph 3 line 1-3) and that doing so improves the fit of the estimated

function (page 98 paragraph 4 line 8).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Maravall, as discussed above, with the teachings of

Leszczyc, because using a base sales volume as an unobserved component in a

regression analysis would have improved the fit of the equation and thereby improved

the equation's ability to accurately forecast.

Regarding Claim 9, Maravall does not teach:

eliminating all the locally optimal base sales volume series having negative

values for the estimated coefficient for the incremental price reduction series; and

of the remaining locally optimal base sales volume series, selecting the locally

optimal base sales volume series for which an R^2 statistical measure has a maximum

value.

The examiner takes official notice that it is old and well known in the art of

regression analysis to discard coefficients by inspection that have negative values

where positive ones are clearly expected. In a multivariate equation where one

independent variable is known to have a positive influence on the dependent variable, a

regression analysis result stating that the coefficient of said independent variable is

negative would cause the practitioner to disregard and discard that coefficient.

The examiner takes official notice that it is old and well known in the art to select a regression equation among alternatives that has the maximum R^2 value. It is old and well known in the art that R^2 varies from 0 to 1 where 0 indicates no correlation and 1 indicates perfect or complete correlation.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the collective teachings of Maravall and Leszczyc, as discussed above, with eliminating series where the coefficients for the incremental price reduction series has a negative value and of the remaining series, selecting the locally optimal base sales volume series for which an R^2 has a maximum value, because it would improve the accuracy of the regression equation for use in later forecasting.

Regarding Claim 10, Maravall does not teach:

eliminating series for which an R^2 statisical measure less than 0.2;

of the remaining base sales volume series, selecting the locally optimal base volume series having the estimated coefficient for the incremental price reduction series with the least negative value.

The examiner takes official notice that it is old and well known in the art to discard the results of a regression analysis for which the R^2 statistical measure is a low value, including less than 0.2. Low R^2 values indicate a low level of correlation between the fitted equation and the data in question. Using regression equations with low R^2 values in forecasts will provide forecast data that is less likely to provide accurate forecasts as opposed to regression equations with higher R^2's (R^2 varies from 0 to 1).

The examiner takes official notice that it is old and well known in the art for a price reduction to increase sales volumes. The underlying mechanism for this is the law of supply and demand. Lower prices stimulate higher sales volumes because a larger portion of buyers are willing to buy a good at a lower price. An equation which indicated a negative increase in sales as a result of a price reduction would be contrary to underlying economic principles. It would be obvious to a practitioner to select coefficients which have the least negative value because the equation would conform more to underlying economic principles and provide better accuracy in use in forecasting.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Maravall and Leszczyc, as discussed above, with eliminating coefficients whose R2 was less than 0.2, and selecting coefficients in an incremental price reduction series with the least negative values, because it would result in a regression equation that provide better forecasting accuracy in predicting the result of various marketing tactics.

Regarding Claim 11, Maravall does not teach wherein less than approximately thirty-five percent of the values of the estimated coefficients have incorrect signs indicating a decrease in base sales volume when in reality an increase should occur.

The examiner takes official notice that it is old and well known in the art of statistics for regression analysis coefficients to have confidence intervals associated with them. Confidence intervals can vary as determined by the practitioner. In the current claim, a confidence interval for the regression coefficients would be 65%.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the collective teachings of Maravall and Leszczyc, as discussed

above, with calculating a 65% confidence interval for the regression coefficients,

because it would provide a measure of certainty as to how accurate the regression

coefficients were for use in knowing the uncertainty associated with forecasting.

Regarding Claim 12, Maravall teaches wherein approximately ninety-five percent

of the values of the estimated coefficients have correct signs indicating an increase in

base sales volume when in reality an increase should occur.

The examiner takes official notice that statistical confidence intervals are old and

well known in the art.   A 95% confidence interval states that an outcome is expected to

be within certain limits 95% of the time.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the collective teachings of Maravall and Leszczyc, as discussed

above, with providing a 95% confidence interval for the regression equation to

determine the statistical likehood of accuracy for later use in forecasting.

Regarding Claim 13, Maravall teaches using his econometric models in forecasts

(page 55 paragraph 2 line 12, equation for forecast at time "T").

Maraval does not teach wherein the business analysis comprises the calculation

of increased sales volume associated with a promotional tactic based on one or more

estimated base sales volumes.

Leszczyc teaches wherein the business analysis comprises the calculation of

increased sales volume associated with a promotional tactic based on one or more

estimated base sales volumes (page 1 paragraph 1 line 1-3, incorrect modeling can

lead to incorrect forecasts and assumptions about marketing strategy; including

unobservable components, i.e. base sales volumes, in a mathematical model improves

its accuracy, Table IV, promotional tactics including couponing and price specials used

in model for determining the timing and frequency of purchases).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Maravall, as discussed above, with the teachings of

Leszczyc to use a mathematical model to predict the impact of promotional tactics on

increased sales volumes, because it would enable a company to improve it's marketing

strategy to maximize revenue and profit.

Regarding Claim 14, Maravall teaches using his econometric approach of

modeling an unobserved component in an economic time series in business analysis

(page 13 paragraph 1 line 4-6). Maravall teaches forecasting (page 55 paragraph 2 line

12).

Maravall does not teach wherein the business analysis is selected from the group

consisting of:

   promotional planning;

   optimal mark down scheduling,

   complement analysis, and

   cannibalization analysis.

Leszczyc teaches using his modeling technique in promotional planning and

optimal market down scheduling (page 104 table IV, promotional planning consisting of

prices specials, advertising and couponing) as well as complement analysis and cannibalization analysis (page 1 paragraph 2 line 2-3, heteogenity is useful in modeling variables in a consumer's choice process, which includes understanding complementary products and cannibalization of products).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Maravall, as discussed above, with wherein the business analysis is selected from the group consisting of promotional planning, optimal mark down scheduling, complement analysis and cannibalization analysis because it would enable the use of unobserved components to further understand and clarify a marketing strategy to maximize the profits of a company.

Claims 15-43 recite limitations already handled by the rejection of Claims 1-14 above, there the same rejection applies.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,839,682 by Blume discloses predictive modeling of consumer financial behaviour using supervised segmentation and nearest neighbor matching.

Nerlove, Marc; Grether, David M.; Carvalho, Jose' L.; "Analysis of Economic Time Series", 1995, Academic Press, pp.105-119, 261-290.

Dilger, Karen Abramic, "Predictive Prowess", Jan 1998, Manufacturing Systems, v16n1, pp.40-50.

Allenby, Greg M.; Rossi, Peter E., "Marketing Models of consumer heterogeneity", 1999, Elsevier Science S.A., pp.1-78.

Manchanda, Puneet; Ansari, Asim; Gupta, Sunil, "The 'Shopping Basket': A Model for Multicategory Purchase Decisions", 1999, Marketing Science, Vol. 18, No.2, pp.95-114.

Subrahmanyan, Saroja; Shoemaker, Robert, "Developing Optimal Pricing and Inventory Policies for Retailers who face Uncertain Demand", 1996, Journal of Retailing, Volume 72, Number 1, pp.7-30.

Web.archive.org, SAS.com webpages of June 25, 1998 "Data Mining - description", "SAS/STAT Software", "Database Marketing".

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 703-305-0550. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JGS 2-22-05

Susanna Diaz

SUSANNA M. DIAZ
PRIMARY EXAMINER

AU 3623